

REMARKS

By the above amendment, claim 33 which has been objected to under 37 CFR 1.75(c) has been canceled, claim 4 which stands rejected under 35 U.S.C. §112, second paragraph, has been amended to clarify the features thereof in a manner which is considered to overcome the rejection under 35 U.S.C. §112, second paragraph. Further, independent claims 1, 4 and 30 have been amended to clarify the on-off modulating of the rf bias voltage as being effected by modulation of the rf bias voltage for one period which is prior to another period in which modulation of the rf bias voltage is not effected as illustrated in Fig. 2 of the drawings, for example. Additionally, by the present amendment, new dependent claims 34-36 have been added which further define features of the present invention in terms of the rf bias voltage frequency of at least 100 kHz and the modulation frequency of at least 100 Hz, as illustrated in Fig. 3(a) of the drawings of this application. Thus, applicants submit that the recited features are supported by the application disclosure.

With regard to the rejection of claim 4 under 35 U.S.C. §112, second paragraph, applicants note that this claim has been amended to recite the feature that a duty ratio of the on-off modulation of the rf bias voltage is set to 5-50% which clarifies the features of the present invention in a manner which is considered to place claim 4 in compliance with 35 U.S.C. §112, second paragraph.

As to the rejection of claims 1, 4 and 30-33 under 35 U.S.C. 102(b) as being anticipated by US 5,352,324 issued to Gotoh (hereinafter, Gotoh), this rejection is traversed insofar as it is applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

As has been previously been pointed out to the Examiner, the requirements for supporting a rejection under 35 U.S.C. 102 is set forth in the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth

in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Applicants submit that based upon the requirements to support a rejection under 35 U.S.C. 102 as set forth in In re Robertson, supra, the Examiner's rejection of the claims under 35 U.S.C. 102 is improper, and should be withdrawn. For example, the Examiner states:

Gotoh's method includes applying a RF bias with a frequency of 1 kHz or more to the substrate support (column 8, line 12). Gotoh teaches applying a high frequency RF bias to the substrate support (column 8, lines 25-26). The examiner takes official notice that a high rf frequency is at least the claimed 100 kHz, with the most commonly used high frequency being the FCC mandated 13.56 MHz. (emphasis added)

Irrespective of the contention by the Examiner, the disclosure in Gotoh of a frequency of "1 kHz or more" does not result in a disclosure of the claimed frequency of "100 kHz" being expressly or inherently described in Gotoh which is a requirement of 35 U.S.C. 102. See In re Robertson, supra. Applicants submit that "at least 100 kHz" is a minimum frequency requirement, while Gotoh expressly describes a "1 kHz" minimum frequency. Thus, it is apparent that there is no express or inherent disclosure of the minimum frequency of 100 kHz in Gotoh and this fact has been recognized by the Examiner in attempting to utilize "official notice". Moreover, the reference to "official notice", is a recognition that Gotoh also does not provide an inherent disclosure since to establish inherency, the extrinsic evidence "must make

clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by the persons of ordinary skill" with the court in In re Robertson, supra, pointing out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. Thus, Gotoh does not disclose applying an rf bias voltage of a frequency of at least 100 kHz which is the minimum frequency and is necessarily contrary to the disclosure of Gotoh of "1 kHz" and in which "or more" does not provide an inherent description of the claimed invention. Thus, applicants submit that the rejection necessarily falls under 35 U.S.C. 102.

Furthermore, by the present amendment, dependent claims have been presented which recite the feature of the modulation frequency of at least 100 Hz which is also not disclosed or taught by Gotoh in the sense of 35 U.S.C. 102 or 35 U.S.C. 103.

Additionally, by the present amendment, the independent claims have been amended to clarify the feature of on-off modulating of the rf bias voltage is obtained by effecting modulation of the rf bias voltage and not effecting modulation of the rf bias voltage as now recited in each of the independent claims of this application. Applicants submit that irrespective of the position set forth by the Examiner, Gotoh does not disclose or teach the recited features of the independent claims of this application.

With respect to the position set forth by the Examiner that the various features as recited in the independent and dependent claims have been demonstrated by applicant as being inherent, apparently in Gotoh (see the Examiner's contention at page 4 of the Office Action that "Applicant has demonstrated (see figure 4) that this is inherent when a high frequency bias, such as that taught by Gotoh, is applied to the substrate"), represents an attempt to utilize applicant's disclosure against applicant which is not proper. See, for example, the decision of In re Lee, 61 USPQ

2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Additionally, as to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

It is apparent that the Examiner has recognized that Gotoh fails to disclose the claimed features and such features cannot be overcome by reference to "official notice", or that applicant has disclosed such features and therefore such features are inherent in Gotoh. Accordingly, applicants submit that all claims present in this application patentably distinguish over Gotoh in the sense of 35 U.S.C. 102 and/or 35 U.S.C. 103.

Applicants note that independent claims 4 and 30 further define other features of the present invention which features are not disclosed or taught by Gotoh, irrespective of the Examiner's position, and the dependent claims recite additional features which further distinguish thereover. More particularly, applicants submit that Gotoh provides no disclosure concerning a main etch of the first layer of the sample in the manner as set forth in claims 30 and 31, for example.

In view of the above amendments and remarks, applicants submit that all claims present in this application patentably distinguish over Gotoh in the sense of 35 U.S.C. 102 and should be considered allowable thereover. Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (520.36911CX2) and please credit any excess fees to such deposit account.

Respectfully submitted,



Melvin Kraus

Registration No. 22,466

ANTONELLI, TERRY, STOUT & KRAUS, LLP

MK/cee
(703) 312-6600